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Actility ThingPark
Software Release Notes
Kerlink - LRR 2.6.27_6

Under NDA

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VERSIONS

Version	Date	Author	Details
01	09-Aug-2022	Actility	Initial Version

TABLE OF CONTENTS

NOTICE **1**

VERSIONS **2**

TABLE OF CONTENTS **3**

1 NOTES REGARDING NEW RELEASE NOTES FORMAT **5**

2 SUPPORTED PLATFORMS **5**

2.1 Version 2.6.27 and related hot-fixes 5

2.2 Information about HAL patches 5

3 NEW FEATURES **6**

3.1 Version 2.6.27_6 6

3.2 Version 2.6.27_5 6

3.3 Version 2.6.27_4 6

3.4 Version 2.6.27_3 6

3.5 Version 2.6.27_2 6

3.6 Version 2.6.27_1 6

3.7 Version 2.6.27 6

3.7.1 Support of new gateways and upgrade of software components 6

3.7.2 Redesign of LRR architecture 6

3.7.3 Support of Proven&Run (aka Secure Store) on all equipped gateways 7

3.7.4 Improvement of menu-driven configuration (suplog menu) 7

3.7.5 Improvement of interface and communication management 7

4 BUG FIXES **8**

4.1 Version 2.6.27_6 8

4.2 Version 2.6.27_5 8

4.3 Version 2.6.27_4 8

4.4 Version 2.6.27_3 8

4.5 Version 2.6.27_2 8
4.6 Version 2.6.27_1 8
4.7 Version 2.6.27 9
4.7.1 Changes since 2.4.94 (IBTS) 9
4.7.2 Changes since 2.4.51 (iFemto) 9
5 KNOWN ISSUES 11
5.1 Common 11
5.2 Kerlink IBTS 11
ABOUT ACTILITY 11

1 NOTES REGARDING NEW RELEASE NOTES FORMAT

Starting from 2.6.27, Release Notes are common to all Kerlink gateways, except Kerlink Station still presented into a specific Release Notes (new common firmware not available on this model).

When needed, the scope of enhancements or fixes will be indicated if specific to a particular model.

For information regarding the previous LRR versions (2.4.94 for Kerlink IBTS, 2.4.51 for Kerlink iFemto), please consult the former model-related Release Notes.

2 SUPPORTED PLATFORMS

2.1 Version 2.6.27 and related hot-fixes

Model	Firmware	FPGA	HAL	Comments
Wirnet IBTS/IBTS compact V2.1	4.3.3	61	5.1.0-klk6 + patch #1	N/A
Wirnet iStation V1.5	4.3.3	31/33	5.0.1-klk9 + patch #2	N/A
Wirnet iFemto Evolution V1.5	4.3.3	31/33	5.0.1-klk9 + patch #2	N/A
Wirnet iFemto V1.0	4.3.3	N/A	5.0.1-klk9 + patch #2	N/A

2.2 Information about HAL patches

- #1: wrong GPS timestamp calculated (3-sector gateways mainly)
  - Issue fixed into Semtech HAL (patch of HAL source).
  - Patch shared with Semtech and agreed, not yet included into a new Semtech HAL release
- #2: do not reset FPGA when connecting (caused downlink to be stopped after a spectral scan analysis)
  - Know issue at Semtech (https://github.com/Lora-net/lora_gateway/pull/113), not fixed in an official release,
  - Fix integrated in Actility delivery

3 NEW FEATURES

3.1 Version 2.6.27_6

Fixes only

3.2 Version 2.6.27_5

Cellular: Improved state recovery

3.3 Version 2.6.27_4

Fixes only

3.4 Version 2.6.27_3

Cellular: Support auto-redial

3.5 Version 2.6.27_2

Kerlink Wirnet iFemto : Wifi and cellular support with suplog menu

3.6 Version 2.6.27_1

Fixes only

3.7 Version 2.6.27

3.7.1 Support of new gateways and upgrade of software components

This version introduces:

- The support of new gateway models:
  - Kerlink Wirnet iFemto Evolution V1.5
  - Kerlink Wirnet iStation V1.5
- The support of new firmware version 4.2.2
  - Same firmware image installed on all gateways
- The support of new HAL version
  - V1.0/V1.5: HAL 5.0.1-klk9
  - V2.1: HAL 5.1.0-klk6

3.7.2 Redesign of LRR architecture

The design is about

- Increasing the common code between various gateways:
  - All firmware-dependent code is common to all gateways
  - Gateway-specific are limited to considering hardware-related differences

- Easing the support of new gateways/new firmware by replacing hard-coded system with static configuration (feature to be supported like GPS or LBT) and dynamic configuration (auto-discovery of binary location, supported commands).

3.7.3 Support of Proven&Run (aka Secure Store) on all equipped gateways

LRR VPN management automatically detects the presence of Secure Store and enables its usage for securing certificates storage when possible.

3.7.4 Improvement of menu-driven configuration (suplog menu)

Although the effort already started in previous versions, “suplog” now integrates the configuration of all network-related features:

- Cellular configuration: user/password/APN
- Ethernet configuration: static/dhcp configuration, DNS servers
- NTP configuration
- Interface failover
- And a lot more.

Please consult the related documentation

3.7.5 Improvement of interface and communication management

- More stable and robust interface management: configuration, failover management
- Enhanced VPN management: monitoring of connections, management of certificates (usage of secure store, anticipation of expiration date)
- Restriction: Wifi backhaul is not supported.

4 BUG FIXES

4.1 Version 2.6.27_6

- RDTP-19008: fix hotfix version reporting in shell LRR
- PT-2416: fix SIM unlock on Kerlink

4.2 Version 2.6.27_5

None

4.3 Version 2.6.27_4

- PT-2079: sysconfiglrr auto-conf, force regeneration on first failure (fix upgrade)

4.4 Version 2.6.27_3

- RDTP-17388: openssh command no longer tries to download autorevssh.txt file
- PT-2008: Fix checkntp when GPS is available
- PT-1998: Force UDP encapsulation on ipsec
- PT-1995: Force default route update in failover after principal restart
- PT-1994: Remove Kerlink Provisioning tool at postinstall
- PT-1991: Force shell LRR env update after LRR ID update
- PT-1989: fix missing charon.log when strongswan.conf does not load strongswan.d folder content
- PT-1988: suplog failover menu shall display wifi only if available on the gateway
- PT-1971: Reset FPGA multiple time on LRR service start to fix radio start issue
- PT-1970: Gateway manager shall not wait for cellular interface when it is not activated
- PT-1969: Gateway manager shall not called reconfig_ppp twice
- PT-1930: Fix empty gateway in DHCP within suplog
- PT-1900: allow hyphen in cellular APN and username
- PT-1672: Force radio reset on LRR startup

4.5 Version 2.6.27_2

- PT-1937: Fix LRR upgrade with ipk
- PT-1914: NFR920 update default NTP minpoll/maxpoll to 6/10
- PT-1821: Checkntp service
- PT-1662: Kerlink NFR920 shall default interface to DHCP
- PT-1922: Fix special character support in download/upload credentials
- PT-1918: Fix ipfailover2 migration when ipsec.conf is empty

4.6 Version 2.6.27_1

- PT-1858: Method to disable secure store (issue on some platforms)

4.7 Version 2.6.27

4.7.1 Changes since 2.4.94 (IBTS)

- RDTP-15129: cause forced to 0 in Sent indication if delivery status is Sent
- PT-1633: do not postpone a beacon
- RDTP-14405: change downlink sent indication error codes (fix issues and add consistency)
- PT-1636: set ntp as owner of NTP drift file
- PT-1646: class C logging in traces
- PT-1410: Spectral Scan now happen on all detected boards (activated with [lrr] multiboard_scan=1)
- PT-1581: missing IsmBand mapping to IsmFreq
- PT-1512: when downlink class B avoid collision, postpone it to next pingslot
- PT-1520: LRR cpu usage to 100% on GPS device read operations
    - Better management of zero-length read
    - [lrr] maxgpsbadread=<number of reads>: number of consecutive invalid reads before resetting GPS serial port (default: 300, about 5mn ; 0 to disable)
- PT-1445: power cycle modem after 10 ofono restart to avoid blocking it in Low Power mode
- PT-1512: for class A Downlink, try rx2 if rx1 fails for any reason
- PT-1432; LRR version not updated after an upgrade
- PT-1535: wrong GPS timestamp calculated for one of 3 boards
    - Issue fixed into Semtech HAL (patch of HAL source).
    - Patch shared with Semtech, not yet included into a new Semtech HAL release
- PT-1458: Interface failover does not support roaming cellular connectivity
- PT-1445: cellular interface stability (improvement of modem restart)
- PT-1670: support of certificates with too long CN subject (in case of non-compliance with RFC)

4.7.2 Changes since 2.4.51 (iFemto)

- RDTP-15129: cause forced to 0 in Sent indication if delivery status is Sent
- RDTP-14405: change downlink sent indication error codes (fix issues and add consistency)
- PT-1636: set ntp as owner of NTP drift file
- PT-1646: class C logging in traces
- PT-1581: missing IsmBand mapping to IsmFreq
- PT-1512: for class A Downlink, try rx2 if rx1 fails for any reason
- PT-1432; LRR version not updated after an upgrade
- PT-1670: support of certificates with too long CN subject (in case of non-compliance with RFC)

- PT-1348: request “sync” status to NTP server instead of checking the process status to have a more precise NTP sync status.
- RDTP-10784: command ‘tracep 0’ now disables traces.
- RDTP-8281: store and send not ack’ed uplink when disconnected from LRC

5 KNOWN ISSUES

5.1 Common

- PT-1666: LBT on V1.5 gateways might not detect noise with carrier sensing time set to 5ms

5.2 Kerlink IBTS

- PT-1301: 3-sector: for the same message, fine time stamp present only on one board.
- PT-1411: uplinks without fine timestamp even if GPS is locked (V2 gateways)

ABOUT ACTILITY

Actility is an industry leader in LPWAN (Low Power Wide Area) large scale infrastructure with ThingPark™, the new generation standard-based M2M communication platform. Actility's ThingPark Wireless™ network provides long-range coverage for low-power sensors used in SmartCity, SmartBuilding and SmartFactory applications. Actility also provides the ThingPark X which provides big data storage for sensor data and exposes sensor function through an open API allowing developers to provide vertical applications on top of rolled out sensors. To help vendors transform their sensors, Actility provides the ThingPark IoT platform which include embedded software solutions and cloud solutions to help devices connect to innovative applications. Via the ThingPark Market, an online marketplace engine dedicated to the IoT sensors, applications and network solutions, Actility enables the roll-out of new innovative IoT services for sensor vendors and network solution vendors. Actility is a founding member of the LoRa Alliance™: the largest, most powerful standards-based effort to enable the Internet of Things (IoT). Visit www.actility.com.

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